



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,642	06/22/2001	J. Scott Buchanan	2001B052	7135

7590 11/05/2002  
ExxonMobil Chemical Company  
Law Technology  
P.O. Box 2149  
Baytown, TX 77522-2149

EXAMINER

STOCKTON, LAURA LYNNE

ART UNIT PAPER NUMBER

1626

DATE MAILED: 11/05/2002 9

Please find below and/or attached an Office communication concerning this application or proceeding.



## UNITED STATES DEPARTMENT OF COMMERCE

## Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
--------------------	-------------	-----------------------	------------------

EXAMINER
----------

ART UNIT	PAPER NUMBER
----------	--------------

9

DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

## OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on August 22, 2002

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), ~~which is longer~~, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

- ☒ Claim(s) 1-54 are pending in the application.  
Of the above, claim(s) 14-54 are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-13 are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- ☒ Notice of Reference Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6 and 8
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

09/887,642

## DETAILED ACTION

Claims 1-54 are pending in the application.

### *Election/Restrictions*

Applicants' election with traverse of Group I, claims 1-13, in Paper No. 7 is acknowledged. The traversal is on the ground(s) that a search of all of the inventions in the application would not be unduly burdensome to the Examiner and for that reason, the restriction is improper.

Applicants' argument has been considered but has not been found persuasive. Separate search considerations are involved for each of the grouped processes. Therefore, it would impose an undue burden on the Examiner and the Patent Office's resources to examine the instant application in its entirety.

The requirement is still deemed proper and is therefore made  
FINAL.

Claims 14-54 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

It is suggested that in order to advance prosecution, the non-elected subject matter be cancelled when responding to this Office Action.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,407,279. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claimed process states particular temperature and pressure conditions whereas independent claim 1 of the patent does not state particular temperature and pressure conditions.

However, the patent discloses that the reaction temperature is from about 50° C up to about 250° C and the pressure is preferably from about 2000 kPa (column 5, lines 21-45). One skilled in the art would thus be motivated to utilize the process of Buchanan et al. to obtain the instant claimed process with the expectation of obtaining dialkyl carbonates and diols. Therefore, the instant claimed process would have been suggested to one skilled in the art.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buysch et al. {U.S. Pat. 4,434,105}, Buchanan et al. {U.S. Pat. 6,407,279} and Chem Systems "Developments in Dimethyl Carbonate Production Technologies" 99/00S6, May 2000 (submitted by Applicants on a 1449 Form), each taken alone or in combination with each other.

*Determination of the scope and content of the prior art (MPEP §2141.01)*

Applicants claim a process of making dialkyl carbonate and a diol from alkylene oxide, carbon dioxide and an aliphatic monohydric alcohol comprising (a) reacting an alkylene oxide with carbon dioxide in the presence of a homogeneous carbonation catalyst to provide a crude cyclic carbonate and (b) reacting said cyclic carbonate with an aliphatic

monohydric alcohol in the presence of said homogeneous carbonation catalyst.

Buysch et al. '105 teach a process of making dialkyl carbonate (e.g. dimethyl carbonate) and a diol (e.g. glycol) by reacting alkylene oxides (e.g. ethylene oxide) with aliphatic and/or cycloaliphatic alcohols (e.g. methanol) and carbon dioxide in the presence of catalysts, such as sodium iodide, thallium carbonate, tetraethylammonium bromide or mixtures thereof (column 1, lines 45-68; column 2, lines 34-38, lines 60-68; column 3, lines 1-23; and Examples 1, 11 and 12).

Buchanan et al. (column 3, lines 26-67; column 4, lines 1-12, 23-53; column 5, lines 1-45; and column 7, lines 1-58) and Chem Systems 99/00S6 (May 2000) {pages 26-30} each teach a process of making dialkyl carbonate (dimethyl carbonate) and a diol (e.g. ethylene glycol) from alkylene oxide (e.g. ethylene oxide), carbon dioxide and an aliphatic monohydric alcohol comprising (a) reacting an alkylene oxide with carbon dioxide in the presence of a homogeneous carbonation catalyst (e.g. potassium iodide) to provide a crude cyclic carbonate and (b)

reacting said cyclic carbonate with an aliphatic monohydric alcohol (e.g. methanol) in the presence of said homogeneous carbonation catalyst, such as a quaternary ammonium halides and alkali halides.

*Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)*

The difference between the process of Buysch et al. '105 and the process instantly claimed is that Buysch et al. '105 teach the addition of all ingredients at once instead of sequentially as instantly claimed.

The difference between the process of Buchanan et al. and Chem Systems 99/00S6 (May 2000) and the process instantly claimed is that of generic description of the reactant/reagents used.

*Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)*

The addition of ingredients sequentially, as instantly claimed, instead of simultaneously, as taught in Buysch et al. '105, is *prima facie* obvious because one skilled in the art would expect to obtain a dialkyl carbonate and a diol.



The indiscriminate selection of "some" reactants/reagents among "many" as taught in Buchanan et al. and Chem Systems 99/00S6 (May 2000) is *prima facie* obvious. The motivation stems from that any of the equivalent reagents/reactants taught in the prior art would produce dialkyl carbonates and diols.

One skilled in the art would have been motivated to utilize the processes taught by the above prior art to arrive at the instant claimed process with the expectation of obtaining a dialkyl carbonate and a diol. Since each of the above cited references teach similar processes, the combination of these references would also teach Applicants' claimed invention. Therefore, the instant claimed process would have been suggested to one skilled in the art.

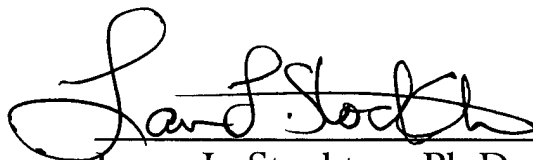
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura L. Stockton whose telephone number is (703) 308-1875. The examiner can normally be reached on Monday-Friday from 6:00 am to 2:30 pm. If the examiner is out of the Office, the examiner's supervisor, Joseph McKane, can be reached on (703) 308-4537.

Application/Control Number: 09/887,642  
Art Unit: 1626

Page 9

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1235.

The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

A handwritten signature in black ink, appearing to read "Laura L. Stockton", written over a horizontal line.

Laura L. Stockton, Ph.D.  
Patent Examiner  
Art Unit 1626, Group 1620  
Technology Center 1600

November 4, 2002